rate element tandem switching revenues currently being recovered through the TIC. In tariffs filed to be effective on that date, we require incumbent LECs to reallocate one third of the portion of the tandem switching revenue requirement that they currently recover through the TIC, excluding signalling and dedicated port costs that we reallocate elsewhere, to the tandem switching rate element.

168. The second step will occur in incumbent LEC tariffs to become effective July 1, 1998. At that time, all incumbent LECs must eliminate the unitary pricing option for tandem switched transport. Instead, incumbent LECs will be required to provide tandem-switched transport under a three-part rate structure as follows: (1) a per-minute charge for transport of traffic over common transport facilities between the LEC end office and the tandem office; (2) a per-minute tandem switching charge; and (3) a flat-rated charge for transport of traffic over dedicated transport facilities between the serving wire center and the tandem switching office. Incumbent LECs will continue to impose separate multiplexing and port charges established on January 1, 1998, as complementary to the three-part rate structure.

169. The third and fourth steps will consist of the reallocation of the remaining portion of the tandem-switching revenue requirement currently recovered through the TIC to the tandem-switching rate element. All incumbent LECs are to reallocate one half of the remaining portion of tandem-switching revenue requirement recovered through the TIC to the tandem-switching rate element in access tariffs to become effective January 1, 1999, and the final portion of the tandem-switching revenue requirement to the tandem-switching rate element in access tariffs to become effective on January 1, 2000. Before performing this reallocation, price cap incumbent LECs must account for X-factor reductions to the tandem-switching revenues permitted under price caps that have occurred since the TIC was created, as described in Section III.C.2.d, below.

c. Rate Structure

170. *Multiplexing Costs.* As discussed above, we direct incumbent LECs to establish separate rate elements for the multiplexing equipment on each side of the tandem switch. LECs must establish a flat-rated charge for DS1/DS3 multiplexers on the serving wire center side of the tandem, imposed pro-rata on the purchasers of dedicated DS3 trunks on the serving wire center side of the tandem, in proportion to the amount of DS3 trunking capacity purchased by each customer. Unlike DS3 rates, rates for DS1 dedicated trunks already include a portion of the DS1/DS3 multiplexer needed for transport.[232] Multiplexing equipment on the end office side of the tandem shall be charged to users of common end office-to-tandem transport on a per-minute of use basis. These multiplexer rate elements must be included in the LEC access tariff filings to be effective January 1, 1998.

[232] *First Transport Order*, 7 FCC Rcd at 7028 n.85.

171. We sought comment in the NPRM on the claim that:

> The TIC . . . includes the two additional multiplexers needed in order to multiplex a DS3 circuit down to a DS1 level before switching at the tandem, and then back up to DS3 afterward for transmission to an end office. To the extent that analog tandem switches exist, two additional DS1/[voice-grade] multiplexers are needed to achieve the voice-grade interface with the tandem switch.[233]

None of our existing rate elements explicitly recovers the costs of these multiplexers, and we conclude that these costs are currently recovered as part of the TIC. Accordingly, we establish two rate elements for multiplexers used on the serving wire center side of the tandem switch. The first will recover the costs of DS3/DS1 multiplexers used by purchasers of dedicated DS3 transport trunks from the serving wire center to the tandem switch, and may be levied only on purchasers of such DS3 transport. The second will recover the costs of DS1/voice-grade multiplexers used on the serving wire center side of analog tandem switches, and should be levied on purchasers of DS1 or greater capacity dedicated transport from the tandem switch to the serving wire center in proportion to the transport capacity purchased on that route. Like serving wire center-side trunks and trunk ports, both DS3/DS1 and DS1/voice-grade multiplexers on the serving wire center side of the tandem switch are dedicated to individual customers. Accordingly, flat-rated NTS charges for these multiplexers are appropriate.

172. On the end office side of the tandem switch, we establish two additional rate elements. The first will recover the costs of DS3/DS1 multiplexers used on the end office side of the tandem switch. This rate element will be a per-minute charge imposed on each IXC purchasing common transport on the end office-to-tandem link. This charge will be calculated based on actual minutes of use of the common transport circuits and will be assessed on IXCs in a 1:1 ratio with minutes of use of common transport. As with common transport trunks, because these multiplexers are shared among all users of common transport, traffic-sensitive, per-minute charges are appropriate. The second rate element should be assessed only at analog tandems, to recover in a similar manner the costs of DS1/voice-grade multiplexers needed at these analog tandems.

173. Price cap LECs must reallocate revenues currently being recovered through the TIC to these rate elements and begin recovery of multiplexing costs using these rate elements in their access tariffs to become effective January 1, 1998.

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[233] NPRM at ¶ 106. It is also possible to combine the DS3/DS1 and DS1/voice-grade functions into a single multiplexer.

174. *Dedicated Tandem Switch Trunk Port Costs.* Price cap incumbent LECs must establish a separate rate element for dedicated trunk ports used to terminate dedicated trunks on the serving wire center side of the tandem switch. LECs incur the costs of these ports on an NTS basis, but currently must recover their costs through per-minute charges for the tandem switch. Because we have allocated 80 percent of tandem-switching costs to the TIC, these port costs may currently be recovered through either per-minute tandem-switching charges, or the per-minute TIC. We now take this opportunity to establish a separate rate element for these costs. Price cap LECs must establish a flat-rated element for dedicated trunk ports on the serving wire center side of the tandem, assessed on the purchaser of the dedicated trunk terminated at that port. This rate element shall be a flat-rated charge assessed on the carrier purchasing the dedicated trunk terminated at that port, and must be also be included in tariff filings to become effective January 1, 1998.

175. *Three-Part Rate Structure.* We also direct all incumbent LECs to discontinue the unitary rate structure option for the transmission component of tandem-switched transport, effective July 1, 1998. In their access tariffs that take effect on July 1, 1998, incumbent LECs will be required to provide tandem-switched transport under a three-part rate structure as follows: (1) a per-minute charge for transport of traffic over common transport facilities between the LEC end office and the tandem office; (2) a per-minute tandem switching charge; and (3) a flat-rated charge for transport of traffic over dedicated transport facilities between the serving wire center and the tandem switching office. This three part rate structure reflects the manner in which the incumbent LEC incurs the costs of providing each component of tandem-switched transport. By establishing a per-minute, traffic-sensitive rate for the shared common transport trunks and the tandem switch, incumbent LECs will recover these costs from each IXC in proportion to its use. The incumbent LEC, in contrast, incurs the costs of the dedicated serving wire center-to-tandem trunk on an NTS basis because, like other dedicated trunks, the LEC must provision the trunk for the exclusive use of one IXC. Once this capacity is dedicated, the cost of the trunk does not vary with the amount of traffic transmitted by the IXC.

176. The three-part rate structure may cause some tandem-switched transport customers to increase their use of direct-trunked transport relative to tandem-switched transport. As discussed above, making this rate structure change effective on July 1, 1998, will provide tandem-switched transport customers that currently take service under the unitary rate structure with notice of this change sufficient to enable them to adjust their networks to provide service in the most efficient way possible, and to mitigate any sudden effect on rates such a change could have if implemented on shorter notice. In order to encourage transport customers to increase the efficiency of their transport networks quickly, we will require incumbent LECs to waive certain nonrecurring charges until six months after the three-part rate structure becomes mandatory. Therefore, from the effective date of this Order until six months after the effective date of tariffs eliminating the unitary pricing option for tandem-switched transport, the incumbent LECs shall not assess any nonrecurring charges for service

connection when a transport customer converts trunks from tandem-switched to direct-trunked transport or orders the disconnection of overprovisioned trunks.[234]

177. When we replaced the equal charge rule in 1991, we stated three principles that would guide our efforts to develop the transport rate structure: (1) to encourage efficient use of transport facilities by allowing pricing that reflects the way costs are incurred; (2) to avoid interference with the development of interstate access competition; and (3) to facilitate full and fair interexchange competition.[235] In 1991, we stated that the interim rate structure was a reasonable first step toward achieving these goals, because it was more cost-based than the equal charge rule.[236] Even from its inception, however, we have recognized that the interim rate structure represents significant compromises that cause it to fall substantially short of these goals in many ways.[237]

178. First, the unitary rate option does not accurately reflect the manner in which LECs incur costs in providing tandem-switched transport and, therefore, does not provide maximum incentive for IXCs to use transport facilities efficiently. IXCs may order, and LECs must provide, dedicated transport links with NTS costs on the serving wire center-to-tandem route with no assurance that the traffic-sensitive, per-minute revenues collected will cover the NTS costs of the link. As we stated at the time, the unitary rate structure was intended as an interim measure to allow IXCs time to prepare for a fully cost-based transport rate structure.[238] IXCs have now had well over a decade since divestiture to so prepare. We agree with the *CompTel* decision that it is time to bring this period of preparation to a close as expeditiously as possible without causing severe disruption to carriers.[239]

179. Second, by bundling the dedicated and common portions of the transmission component of tandem-switched transport into a single, end-to-end per-minute charge, the unitary rate structure inhibits the development of competitive alternatives to incumbent LEC

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[234] This waiver is similar to the one we ordered when we adopted the interim rate structure. *First Transport Order*, 7 FCC Rcd at 7038.

[235] *First Transport Order*, 7 FCC Rcd at 7009. We reiterated these principles in the *First Transport Reconsideration Order*, 8 FCC Rcd at 5372, and the *Third Transport Reconsideration Order*, 10 FCC Rcd at 3035.

[236] *First Transport Order*, 7 FCC Rcd at 7016.

[237] *See First Transport Order*, 7 FCC Rcd at 7016, 7021-22; *Third Transport Reconsideration Order*, 10 FCC Rcd at 3047-48.

[238] *Third Transport Reconsideration Order*, 10 FCC Rcd at 3048.

[239] *CompTel*, 87 F.3d at 530.

tandem-switched transport. While we have required incumbent LECs to provide the collocation, signalling, and unbundled network elements necessary for new entrants to compete with incumbent LECs without having to replicate the incumbent LEC's interoffice transport network,[240] we have not corrected the non-cost based aspects of our tandem-switched transport rate structure that reduce incumbent LEC rates for tandem-switched transport services. Several commenters have noted that the tandem-switched transport market, despite our efforts, is subject only to limited competition.[241] Moreover, several competitive entrants have stated that they have the capability and desire to offer some or all of the components of tandem-switched transport on a competitive basis, but that the present, unitary rate structure inhibits the development of competition in this area.[242] In addition, each component of tandem-switched transport is not equally susceptible to competitive entry; it is relatively easier

[240] *See Local Competition Order*; *Expanded Interconnection with Local Telephone Company Facilities*, Memorandum Opinion and Order, 9 FCC Rcd 5154 (1994); *Expanded Interconnection with Local Telephone Company Facilities*, Transport Phase II, Third Report and Order, 9 FCC Rcd 2718 (1994).

[241] *E.g.*, Letter from David Sieradzki, Counsel for WorldCom, Inc., to William F. Caton, Acting Secretary, FCC, February 25, 1997, Encl. at. 4.

[242] *E.g.*, Teleport Comments at 13-14; ALTS Reply at 22. After the comment period closed in this proceeding, Teleport and CompTel proposed a compromise tandem-switched transport rate structure that would (1) retain the unitary rate structure for the transmission component of tandem-switched transport; (2) prohibit incumbent LECs from deaveraging TIC charges within a state for a five year transition period; and (3) provide that IXCs and CLECs that do not use transport facilities supplied by the incumbent LEC would be exempt from paying the TIC for any switched access traffic carried over those facilities. *See Ex Parte* Letter from James M. Smith and Robert C. Atkinson to Hon. Reed E. Hundt, April 16, 1997. Teleport and CompTel characterize this third element of their proposal as the "most important." Exempting IXCs and CLECs that do not use transport facilities supplied by the incumbent LEC from paying the TIC for any switched access traffic carried over those facilities would be consistent with a recent Colorado Commission arbitration ruling. *See TCG Colorado Petition for Arbitration Pursuant to § 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with U S West*, Docket No. 96A-329T, Decision Regarding Petition for Arbitration, Decision No. C96-1186 (adopted Nov. 5, 1996). In that decision, the Colorado Commission stated that,

> [I]f [U S West] provides all or part of the transport of an interstate call from the end office to the IXC, then [U S West] is entitled to collect its interstate rates, including [TIC]. If, however, [U S West] is not providing the transport of a call from an end-office switch to an IXC, then [U S West] may not apply its switched access transport rates, including the [TIC], to those calls. We reject arbitrary splits of revenues. In jointly provisioned switched access services, each company will develop and apply its tariffed rates to the portion of service it provides.

Id. at ¶ I.O.7. Clarifying this position on reconsideration, the Colorado Commission stated, "[t]he [TIC] shall be applied on a pro rata basis determined from the proportional distance between the [Teleport] tandem and the end-office of [U S West]." *TCG Colorado Petition for Arbitration Pursuant to § 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with U S West*, Docket No. 96A-329T, Order Denying Applications for Rehearing, Reargument, or Reconsideration, Decision No. C96-1344 (adopted Dec. 18, 1996), at ¶ I.B.1.4.

for a new entrant to compete to provide the dedicated serving wire center-to-tandem link than it would be to compete to provide either the tandem switch itself or the myriad common transport end office-to-tandem links. Thus, in order to permit the fullest development of competitive alternatives to incumbent LEC networks, we need to unbundle reasonably segregable components of incumbent LEC transport services and price them in the manner in which costs are incurred.

180. Third, the interim rate structure does not best promote "full and fair" interexchange competition. The unitary rate structure has facilitated the growth of small IXCs to compete with larger carriers. It has achieved this, however, by requiring incumbent LECs to price facilities with NTS costs on a per-minute, traffic sensitive basis, in order to allow small IXCs to offer interexchange services at rates comparable to those offered by larger carriers without regard to whether the charges paid by the small IXCs cover the costs of the facilities that they use. While this structure has protected "pluralistic supply in the interexchange market,"[243] our rules should promote competition, not protect certain competitors. We have recently concluded that no carrier is dominant with respect to domestic, interexchange services.[244] Therefore, to the extent that we designed the interim rate structure to facilitate the growth of small IXCs in competition with AT&T, we find that such protective rules are no longer necessary. In a competitive market, we believe that we should strive to make our rate structure rules consistent with cost-causation principles, so long as those principles do not conflict with other statutory obligations, such as universal service. As the *CompTel* decision stated, "attempt[ing] to recover costs from IXCs that did not cause those costs to be incurred would impart the wrong incentives to both actual and potential providers of local transport, thereby inducing them to offer an inefficient mix of dedicated, [direct-trunked transport], and tandem-switched service."[245] Because rules that do not reflect cost-causation may cause IXCs to order an inefficient mix of transport services, such rules artificially raise the costs of providing interexchange services. Rules properly reflecting cost-causation, in contrast, will benefit LECs, IXCs, and consumers alike by encouraging competitors to provide service using facilities efficiently. In adopting the interim rate structure, we cited AT&T's estimate that the efficiency benefit to consumers of cost-based pricing and competition could reach $1 billion annually.[246] Our adoption of the three-part rate structure is intended to permit consumers the benefits of even greater service efficiency.

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[243] *See First Transport Order*, 7 FCC Rcd at 7007.

[244] *Motion of AT&T to be Reclassified as a Non-Dominant Carrier*, Order, 11 FCC Rcd 3271 (1995).

[245] *CompTel*, 87 F.3d at 530-531. Even though directly addressing the TIC and not the unitary rate structure, the Court's remarks are apposite because the unitary rate structure does not recover the costs of tandem-switched transport in the way that those costs are incurred and therefore results in the recovery of some costs of the transmission component of tandem-switched transport through the TIC.

[246] *First Transport Order*, 7 FCC Rcd at 7016.

181. We therefore adopt the three-part structure as the final tandem-switched transport rate structure because this structure most closely reflects the manner in which LECs incur the costs of each component of the overall tandem-switched transport service. When combined with our actions with respect to the TIC, our adoption of actual minutes of use as the appropriate factor for determining per-minute rates for common transport circuits, and our allocation of the full cost of the tandem-switch to the tandem-switching rate elements, we expect that this structure will benefit LECs, IXCs, competitive providers of access services, and consumers. Tandem-switched transport facilities are sized to accommodate peak traffic loads, including overflow traffic from IXCs using direct-trunked transport facilities. Several commenters have stated that, until now, these overflow customers have not borne the full costs of these facilities because overflow customers pay only the same per-minute transmission charges applicable to other IXCs.[247] The three-part rate structure will require the IXC purchasing tandem-switched transmission facilities to pay the full NTS costs of the dedicated serving wire center-to-tandem link, without regard for the amount of traffic transported. This benefit, in turn, will substantially increase IXC incentives to use tandem-switched transport efficiently for overflow traffic.

182. Some commenters argue that we should retain the unitary rate structure because tandem-switched transport, as a service, has traditionally been offered on an end-to-end basis. We agree that the transmission component of tandem-switched transport has in fact been *offered* on an end-to-end basis, but only pursuant to the requirements of the MFJ and our interim rate structure rules as part of a transition to cost-based rates. We find, however, that the transmission component of tandem-switched transport is not, in fact, *provisioned* by the incumbent LEC on an end-to-end basis. Purchasers of direct-trunked transport purchase an end-to-end service; they purchase from the incumbent LEC transport capacity between two end points. Tandem-switched transport customers, in contrast, purchase use of the tandem switch to route traffic to their POP. By virtue of their decision to choose tandem-switched transport, these customers specifically obligate the LEC to transport their traffic between the serving wire center and the tandem serving a particular end office or group of end offices and to perform the tandem switching function. Because they cause the incumbent LEC to incur the costs of transmitting their traffic between the serving wire center and the tandem, tandem-switched transport customers should, as a matter of cost-causation, pay the costs of reaching the tandem. In providing tandem-switched service, incumbent LECs must provision two separate circuits with distinctly different cost characteristics -- one dedicated, and one shared. Tandem-switched service, therefore, is not provisioned on an end-to-end basis between the end office and serving wire center, but in three parts: (1) transmission from one "end," the end office, to the tandem; (2) the tandem switching function itself; and (3) transmission from the tandem to the other "end," the serving wire center. Just as the tandem-switched transport

[247] *E.g.*, TCI Comments at 16, Reply at 13-14. *See also* ACC Long Distance Comments at 14-15; Telco Communications Group Comments at 6-7.

customer pays a separate charge for the tandem switch, the tandem-switched transport customer should pay separately for the two distinct transmission components.

183. Other commenters argue that the three-part rate structure will create LEC incentives to engage in inefficient network reconfiguration, placing tandems far from end offices and serving wire centers simply to increase tandem-switched transport revenues.[248] These commenters further argue that, if we adopt the three-part rate structure, we need to control this incentive by establishing a process for review of the incumbent LECs' tandem deployment decisions. Based on this record, we conclude that these commenters' fears are not well founded. An incumbent LEC would likely incur substantial costs to reconfigure placement of its tandem switches specifically to disadvantage IXC users of tandem switched transport. Because we expect the three part rate structure to catalyze the development of competition, we conclude that the incumbent LEC would not be likely to incur such costs. Although the incumbent LEC might be able to increase its tandem-switched transmission revenues in the short term to reflect inefficient routing, as more efficiently configured competitors enter the market, the LEC would not be able to sustain such artificially inflated rates and would then need to incur additional costs to reconfigure its network efficiently. Because, under our new competitive paradigm, a multitude of investment opportunities, including wireless services, video, and interLATA toll, may emerge for incumbent LECs, we agree with Ameritech that "[s]uch misspent capital outlays and inefficient network configuration simply would not make good business sense."[249]

184. Moreover, the redeployment of tandem switches affects network efficiency with respect to both the incumbent LEC's own local and toll traffic, as well as intrastate and interstate access.[250] Therefore, inefficient network reconfiguration would cause harm both to tandem-switched transport customers and to the incumbent LEC itself. Any additional transport revenues that the incumbent LEC generated through inefficient network reconfiguration would be at least partially offset by the additional costs of transporting the LEC's own traffic in similarly inefficient ways. As discussed above, as competition develops in the local market, we expect that a LEC would be reluctant to take steps to decrease its own efficiency.

185. Some commenters argue that we should retain the unitary rate structure because direct-trunked transport and tandem-switched transport circuits often travel along the same routes using the same physical facilities. These commenters argue, therefore, that it would be unfair or discriminatory to require tandem-switched transport users to purchase transmission

[248] *E.g.*, Sprint Comments at 22.

[249] Ameritech Reply at 29.

[250] *See* Ameritech Reply at 29.

based on airline mileage from the end office to the tandem to the serving wire center, while users of direct-trunked transport are permitted to purchase the same route on the basis of airline mileage from end office to the serving wire center directly. Other commenters argue that we should require the LECs to offer both types of transport based on actual route miles, revealing actual LEC network efficiencies and inefficiencies.

186. We disagree with both of these proposed modifications. An IXC purchasing direct-trunked transport requires the incumbent LEC to provide transport service between the end office and the serving wire center. Because the LEC must route direct-trunked transport traffic between only these two points, our rate structure requires the IXC to pay only for the airline mileage between those two points, reflecting the direct mileage route between the locations in the incumbent LEC network designated by the access customer. In contrast, an IXC purchasing tandem-switched transport purchases use of the access tandem switch and therefore requires the incumbent LEC to provide service between the serving wire center and the tandem, and between the tandem and the end office. Under the three part rate structure, the tandem-switched transport customer, like the direct-trunked transport customer, pays for the direct mileage between the locations in the incumbent LEC network designated by the customer -- for tandem-switched transport, the serving wire center to tandem, and the tandem to the end office. Because the IXC has chosen to make use of the LEC tandem switching facilities, it should pay explicitly for the transport necessary to reach the tandem. The direct-trunked transport customer, in contrast, does not make use of the tandem switching facilities; even if the LEC routes direct-trunked transport traffic through the tandem office, this traffic is not switched at the tandem. While the incumbent LEC may choose to route direct-trunked traffic through the tandem office based on its own assessment of whether it is economically efficient to do so, the direct-trunked transport customer pays only for direct mileage between the locations it designated in the network.

187. We are not persuaded by arguments that we should retain the unitary pricing structure because the incumbent LEC, and not the tandem-switched transport customer, has selected the tandem location and, consequently, the tandem-switched transport customer should not pay for the direct mileage to and from the tandem location. The incumbent LEC equally chooses the locations of the serving wire center and end office, and yet access customers routinely pay mileage charges to and from those locations, rather than between the end points of the access service -- the POP and the end user location. Similarly, we find that the three-part rate structure does not discriminate against IXCs using tandem-switched transport. As discussed above, the tandem-switched transport customer, unlike the direct-trunked transport customer, *requires* the incumbent LEC to route its traffic to the tandem, and so should pay the costs of reaching the tandem. In addition, an IXC operating efficiently often may choose to locate its POP at or close to the tandem, if the tandem-switching office also can function as the serving wire center, thus eliminating virtually all of the dedicated transport costs of the tandem-to-serving wire center link. While such an arrangement may be the most efficient transport architecture for tandem-switched transport, our current unitary

pricing structure does not reflect the underlying costs of tandem-switched transport transmission facilities and so does not encourage efficient transport architectures.

188. The introduction of more modern network architectures, such as Synchronous Optical Network (SONET) rings, does not alter our conclusion that the three-part rate structure most closely approximates the nature of costs associated with each component of tandem-switched transport. WorldCom, for instance, asserts that the "pyramid" diagram included in the NPRM as Figure 1 is outdated[251] and submits a diagram illustrating interoffice tandem-switched transport in a ring-based network.[252] WorldCom states that the multiple routing options and the reduced distance sensitivity of transport costs in a SONET environment compel retention of the unitary rate structure.[253] We conclude, however, that the differences WorldCom identifies do not support retention of the unitary rate structure because, even in a ring-based network, the three-part rate structure treats direct-trunked and tandem-switched transport consistently. In a fiber-optic or ring-based network, dedicated, direct-trunked transport circuits are given a constant, and exclusive, time slot assignment on a large, time-division multiplexed fiber-optic cable. The incumbent LEC routes traffic for the IXC purchasing the direct trunk into the dedicated circuit or time slot, where it is received elsewhere on the ring or in the network at the serving wire center. The direction or precise routing of the signal around the ring is irrelevant for purposes of the rate structure because the transport is priced on an airline-mileage basis between the two end points. Capacity dedicated to a particular IXC, however, is not available to the LEC for other purposes.

189. SONET ring architecture offers the LEC the capability to transport large traffic volumes with redundant routing options, but it does not alter the fundamental nature of tandem-switched transport. Tandem-switched transport is functionally very different from direct-trunked transport because, by definition, the incumbent LEC must route an IXC's tandem-switched traffic through the tandem switch serving a particular end office. Whether using a SONET ring or not, the LEC must route its tandem-switched traffic into one of many shared common transport circuits or time slots allocated for transport between the end office and the tandem switch, and onto a *second* dedicated circuit or time slot for transport between the serving wire center and the tandem. Despite parties' arguments to the contrary, the precise routing of the traffic to the tandem, including the direction it may take around a SONET ring, is irrelevant to the rate structure because IXCs purchase transport under the three-part rate structure based on airline mileage to the tandem.

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[251] NPRM at ¶ 24 (diagram follows the paragraph).

[252] WorldCom Reply at iii.

[253] WorldCom Reply at 29-31.

190. As discussed in connection with direct-trunked transport, above, ring network architectures may cause incumbent LECs transport costs to become less distance sensitive. Because our rate structure permits, but does not require, transport rates to be distance sensitive, LECs remain free to establish less distance sensitive transport rates to reflect the changing nature of these costs.

191. We also decline Teleport's suggestion to establish a flat-rated charge for the tandem switch, tied to the amount of dedicated capacity each IXC's serving wire center-side trunk ports provide. While the costs of these dedicated trunk ports are NTS, the record before us does not reflect that all of tandem-switching costs are similarly NTS. Rather, we conclude at this time that the costs of tandem switching likely vary, as do those of local switching, on a traffic-sensitive basis. In light of this conclusion, we find that it would be unreasonable to permit the incumbent LEC to recover all of its tandem-switching costs through flat-rated charges. As with the local switch, until we gain more experience with rate structures for unbundled network elements that are implemented pursuant to Sections 251 and 252 and that segregate switching costs into traffic-sensitive and NTS components, we will continue to adhere to the current, per-minute rate structure for shared switching facilities.

192. We also decline to adopt in full suggestions that we (1) retain the unitary pricing structure for tandem-switched transport, while (2) exempting IXCs and competing LECs that do not use the transport facilities supplied by the incumbent LEC from paying the TIC and (3) preventing the incumbent LEC from deaveraging the TIC within a state during a five year transition period.[254] We are modifying our rules to prohibit incumbent LECs from assessing any per-minute residual TIC charge on any switched minutes of CAPs that interconnect with the incumbent LEC switched access network at the end office.[255] In doing so, we adopt a position substantially similar to the second enumerated point, above, which Teleport and CompTel characterize as the "most important" feature of this proposal.[256] In addition, we are also taking other measures that will reduce substantially or eliminate the TIC in an expeditious manner. We decline, however, to adopt the other two suggestions. As explained in more detail above, the unitary rate structure is not cost-based in that it requires incumbent LECs to recover costs incurred on an NTS basis through per-minute charges and inhibits the development of competition by bundling reasonably segregable components of tandem-switched transport together and pricing them in a manner that does not reflect cost causation. We conclude that our new paradigm of promoting efficient competition requires that

[254] *See* Letter from James M. Smith, President, CompTel, and Robert C. Atkinson, Senior Vice President, Teleport Communications Group Inc., to Hon. Reed E. Hundt, Chairman, FCC, April 16, 1997.

[255] Section III.D.2.b.

[256] *See* Letter from James M. Smith, President, CompTel, and Robert C. Atkinson, Senior Vice President, Teleport Communications Group Inc., to Hon. Reed E. Hundt, Chairman, FCC, April 16, 1997.

incumbent LECs adopt a cost-based transport rate structure and that entrants providing transport facilities in competition with the incumbent LEC not pay the TIC.

193. Although in their comments in this proceeding the incumbent LECs virtually unanimously favor the three-part rate structure as most consistent with principles of cost-causation, we recognize that incumbent LECs may face competition from competitors that are not limited to the three-part rate structure we adopt for incumbent LECs today. As such competition develops, the incumbent LEC may wish to respond by offering tandem-switched transport on a unitary pricing basis. We will address issues relating to when incumbent LECs should have the flexibility to offer a unitary tandem-switched transport rate structure in connection with our discussion of other pricing flexibility issues in a subsequent Report and Order that we will adopt in this proceeding.

194. *Peak and Off-Peak Pricing.* As with the local switch, we conclude that we should not mandate a peak-rate pricing structure for the tandem switch or common transport at this time. Many of the same practical difficulties with establishing, verifying, and enforcing a rational, efficient, and fair peak-rate structure exist in the context of the tandem switch. We will consider whether incumbent LECs should have the flexibility to develop such peak and off-peak rate structures for local switching on a permissive basis when we consider other issues of rate structure flexibility in a subsequent Report and Order that we will adopt in this proceeding.

d. Rate Levels

195. *Allocation of 80 Percent of the Tandem Switching Revenue Requirement to the TIC.* In establishing the interim transport rate structure, we required incumbent LECs to base their initial tandem switching charge on 20 percent of the interstate tandem-switching revenue requirement. In remanding this portion of the interim rate structure to us, the D.C. Circuit directed us either to implement a cost-based tandem switching rate or offer a rational and non-conclusory analysis in support of our determination that an alternative structure is preferable.

196. Based on the record in this proceeding, we reallocate much of the remaining 80 percent of the tandem switch revenue requirement back to the tandem switching rate elements in three steps. We conclude that this action is most consistent with cost-causation, and with the general approach we are taking in this Order regarding pricing issues. We do not require all of the 80 percent to be reallocated to tandem switching rates because the tandem-switching revenue requirement includes, not only the costs of the tandem switch, but other costs, such as SS7 signalling costs and tandem port costs, which we are requiring to be reallocated elsewhere.

197. Furthermore, if we required the price cap LECs to reallocate, dollar-for-dollar, the entire portion of the tandem switching revenue requirement that we reallocated to the original TIC in the *First Transport Order*, we would deny tandem-switched transport customers the continuing benefits of past X-factor reductions in the revenues permitted under price caps. Therefore, in order to preclude recovery of tandem switching costs in excess of the current revenues permitted under price caps, we direct price cap incumbent LECs first to account in the following manner for the effects of "GDP-PI minus X-factor" reductions to the original portion of the tandem switching revenue requirement allocated to the TIC in the *First Transport Order*. Each price cap LEC first should calculate the percentage of its total original TIC that represented the 80 percent reallocation of its tandem switching costs when the TIC was created. It should then calculate this percentage of its current TIC, which represents the extant portion of the reallocated tandem switching costs. It is this extant portion that the price cap LECs should reallocate to tandem switching as described in the next paragraph.

198. In access tariff filings to become effective on January 1, 1998, incumbent LECs must identify the portion of the tandem-switching revenue requirement currently in the TIC that they reallocate to each rate element, including, as applicable, SS7 signalling, tandem port costs, or other rate elements. They must then reallocate one third of the tandem switching revenue requirement remaining in the TIC to the tandem switching rate element. Effective January 1, 1999, incumbent LECs shall reallocate approximately one half of the remaining amount of the tandem switching revenue requirement in the TIC to the tandem switching rate elements. Effective January 1, 2000, incumbent LECs shall reallocate any portion of the tandem switching revenue requirement remaining in the TIC to the tandem switching rate element. This three-step implementation of this change permits IXCs time to adjust their use of various incumbent LEC transport services, but sets a definite end date in the near future, thus responding to the *CompTel* decision's concerns regarding the length of the transition to a cost-based transport rate structure.

199. Some commenters argue that, rather than reallocating revenues from the TIC to other rate elements, we should reinitialize tandem-switched transport rates to levels reflecting long run incremental costs, making reallocation of TIC revenues to other transport rate elements unnecessary. We have decided in this Order, however, not to reinitialize access rates based on forward-looking cost principles. We have instead determined that the first step in access reform is to make the current system as economically efficient as is possible within the limits of current ratemaking practices. Thus, the focus of this portion of this proceeding is on the development of cost-causative rate structure rules. While we are taking several prescriptive steps using existing ratemaking methods to reduce initial baseline rates, we are generally adopting a market-based approach, with a prescriptive backdrop, to move rates over time to levels reflecting forward-looking economic costs. We disagree with those commenters that argue that the *Local Competition Order* requires us immediately to prescribe rate levels for access elements based on long-run incremental costs. The *Local Competition Order*

addressed, *inter alia*, the pricing of unbundled network elements. While unbundled network elements may be used to provide interstate access services, their availability at TELRIC-based prices does not compel adoption of similar rates for access services. We intend instead to rely on the availability of unbundled network elements to place market-based downward pressures on access rates, subject to a prescriptive backstop. We will further address questions related to reinitialization to TELRIC rate levels in connection with our discussion of the prescriptive approach to access reform.[257]

200. *Use of Switched Access Overhead Loadings for Initial Tandem Switching Rates.* In setting rates, the interim transport rate structure derived both direct-trunked transport rates and tandem-switched transmission rates using relatively low overhead loadings applicable to special access. Tandem switching rates, in contrast, were set using relatively higher switched access overhead loadings. As a result, the tandem switching revenue requirement became relatively high, in comparison to other transport rate elements.

201. Several commenters in this proceeding contend that our use of special access overheads in setting direct trunked transport rates was inappropriate because, while special access is used almost exclusively in high density, generally urban areas, direct-trunked transport and, to an even greater extent, tandem-switched transport are used in less dense areas.[258] In these less dense areas, overhead costs associated with transport may be higher than those associated with special access in urban areas. Some commenters have argued that we should either (1) equalize the overhead loading factors for all transport options by directing that the difference in transport rates is equal to the difference in the long run incremental cost of each transport option (DS3, DS1, and tandem-switched transport); or (2) otherwise ensure that transport customers pay an equal dollar amount of overhead per unit of traffic transported.[259]

202. We conclude that we need to make no change to the overheads attributed to tandem switching. As discussed above, we have decided not to base access prices directly at this time on incremental cost studies, but instead to make significant changes in existing ratemaking practices as the first step in access reform. Our current methods allocate overhead in a reasonable, cost-based manner. In consultation with the Joint Board on Jurisdictional Separations, the Commission established procedures for allocating overhead expenses between

[257] *See* Section IV.B.2.

[258] *See, e.g.*, BellSouth Comments at 77, 80.

[259] Cable & Wireless Comments at 19.

the state and interstate jurisdictions.[260] Our Part 69 cost allocation rules in turn allocated interstate direct investment to broad categories, including Central Office Equipment (with respect to both local switching and tandem switching) and Carrier Cable and Wire Facilities (with respect to special access, direct-trunked transport, and tandem-switched transport transmission facilities).[261] Other investment, including overhead, was allocated among these categories in proportion to the dollar amounts of net direct investment allocated to these categories.[262] Similarly, direct expenses, where possible, were allocated to the category to which the expenses are related.[263] Other expenses, including overheads, are allocated on the same basis as other investment, according to relative dollar amounts allocated to the various categories.[264] The Commission has stated that initial allocation of overheads based on relative costs closely approximates an economically efficient method assuming that the elasticity of demands for the various outputs is not too dissimilar.[265]

203. Our Part 69 cost allocation rules, therefore, established category revenue requirements that included overheads allocated generally based on relative costs. Once these initial revenue requirements were established, our Part 69 rules permitted incumbent LECs to recover all costs assigned to each category through the rate elements established for that category.[266] The incumbent LECs were permitted to assign overhead costs among the category rate elements in any way that is just and reasonable and not unreasonably discriminatory.[267] We find that it is reasonable to have set overhead loadings for tandem switching consistently with the overhead loadings for local switching, and disagree with those parties that argue that there is no cost justification for the current allocation of overheads to the tandem switch. The direct costs of both kinds of switching are fundamentally the same in that both types of switches are comprised of ports and a switching matrix. By contrast, the

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[260] *See, e.g.*, 47 C.F.R. § 36.192, separating Corporate Operations Expenses, USOA Accounts 6710 and 6720, on the basis of the separation of the Big Three Expenses: Plant Specific Expenses, Plant Non-Specific Expenses, and Customer Operations Expenses.

[261] 47 C.F.R. §§ 69.305 - 69.306.

[262] 47 C.F.R. § 69.309.

[263] *E.g.*, 47 C.F.R. § 69.401.

[264] 47 C.F.R. § 69.411.

[265] *See, e.g., First Transport Order*, 7 FCC Rcd at 7030 n.91.

[266] Since 1991, of course, the amounts recovered by price cap LECs have been subject to the price cap formulae. For all incumbent LECs, however, the relative allocation of overheads was originally established under cost-of-service regulation by the Part 69 cost allocation rules.

[267] 47 U.S.C. §§ 201-202.

direct costs of transmission consist of outside plant and circuit equipment and certain central office equipment. So long as consistent overhead loading methodologies were used across switching functions, and across transmission functions, we find that a reasonable cross-over is established for access customers between direct-trunked transport and tandem-switched transport. As competition develops, we can also rely on market forces to pressure incumbent LECs to allocate overheads among rate elements in economically efficient ways. We address issues concerning the use of special access prices to initialize direct-trunked transport rates in the interim rate restructure below in our discussion of the TIC.

204. We also decline to adopt a requirement for equalized overhead loadings. Overhead loadings are used to assign costs that do not qualify as the direct costs of a particular service. Reasonable definitions of direct costs often leave in the overhead category costs that might reasonably be deemed attributable to a given service. Thus, if all of a carrier's costs are classified as either "direct costs" or "overheads," the overhead category will likely include costs that should not necessarily apply uniformly to all services. As a result, we think it desirable not to adopt a policy that is too specific and too rigid, and that might not permit recognition of legitimate differences in costing definitions. Furthermore, in a competitive market, it would be mere happenstance if different products or services of a single company recovered uniform amounts of overhead. If we were to require equalized overhead loadings, we would be interfering with the market discipline on which we are primarily relying. We might, for example, prevent an entrant from realizing a reasonable profit opportunity based on a rigid overhead loading requirement.

205. In determining that our existing cost allocation rules reasonably allocated overhead to the initial tandem switching rate element and that we thus need not change the overheads currently attributed to tandem switching, we recognize that the D.C. Circuit in *CompTel* remanded the overhead issue to the Commission for further explanation and stated that the "cost allocation to the tandem switch" under the existing allocation rules "is, by the Commission's own estimation, grossly excessive."[268] The court did not provide a cite for its characterization of the Commission's "estimation," but the court may have been referring to the agency's finding in the *First Transport Order* that "most, *but not all*, of the interstate tandem revenue requirement is attributable to tandem-switched transport."[269] The Commission in that order also identified only one category of costs -- having to do with SS7 technology -- that appeared to be misallocated to tandem switching.[270] Elsewhere in this Order, we have

[268] *CompTel*, 87 F.3d at 533.

[269] 7 FCC Rcd at 7062 (emphasis added).

[270] *Id.*

taken steps to address that misallocation of SS7 costs.[271] That correction having been made, we find that our existing rules reasonably allocate overhead to tandem switching for the reasons discussed above.

206. *Use of actual minutes of use rather than an assumed 9000 minutes of use.* For tandem-switched transport rates to be presumed reasonable, the interim rate structure requires incumbent LECs to set per-minute tandem-switched transport rates using a weighted average of DS1 and DS3 rates reflecting the relative numbers of circuits of each type in use in the tandem-to-end office link, and assuming circuit loading of 9000 minutes of use per month per voice-grade circuit.[272] Based on the record before us, we find that continued use of this 9000 minutes of use assumption is no longer reasonable. Many commenters state that their actual traffic levels are substantially lower than 9000 minutes of use per month. Some incumbent LECs, particularly smaller LECs in rural areas, indicate that their actual traffic levels may be as low as 4000 minutes of use per month per voice-grade circuit. Accordingly, we conclude that rates for the common transport portion of tandem-switched transport must be set using a weighted average of DS1 and DS3 rates reflecting the relative numbers of DS1 and DS3 circuits in use in the tandem-to-end office link, and using the actual voice-grade switched access common transport circuit loadings, measured as total actual minutes of use, geographically averaged on a study-area-wide basis, that the incumbent LEC experiences based on the prior year's annual use. Incumbent LECs that deaverage their transport rates under our existing zone-based deaveraging rules[273] may similarly deaverage the actual minutes of use figures that they use to calculate per-minute common transport rates.

207. Our assumption that voice-grade common transport circuits experience uniform loadings of 9000 minutes of use was initially based on 1983 data submitted in the original *MTS and WATS Market Structure* proceeding.[274] In using this assumption as part of the interim rate structure, we stated that, "[t]he 9000 minutes per circuit per month standard serves as a convenient starting point in the context of a short-term, interim rate structure."[275] We rejected at that time requests to develop a loading factor for small LECs that would reflect their actual, substantially lower circuit loading levels, stating that, "the benefits to be obtained from use of more individualized loading factors are outweighed by the benefits of the administrative convenience of a uniform loading factor and of avoiding verification

[271] *See* Section III.D.2.

[272] *First Transport Order*, 7 FCC Rcd at 7036-37.

[273] *See* 47 C.F.R. § 69.123.

[274] *MTS and WATS Market Structure*, Memorandum Opinion and Order, 97 F.C.C.2d at 862.

[275] *First Transport Reconsideration Order*, 8 FCC Rcd at 5377.

difficulties."[276] Given the new competitive paradigm embodied in the 1996 Act, we conclude that this assumption must give way to charges based on actual usage levels. The same conversion factor is not appropriate for each incumbent LEC.[277] Because the 9000 minute assumption appears to have substantially overstated the actual traffic levels on many circuits, we now conclude that the current rate structure is unlikely to recover the full costs of common transport. Costs that properly should be recovered from common transport rate elements may currently be recovered through TIC revenues. Because the 9000 minutes of use loading factor has contributed, possibly significantly, to the level of the non-cost-based TIC, we find that continued use of this factor is no longer reasonable.

208. We therefore direct incumbent LECs to develop common transport rates based on the relative numbers of DS1 and DS3 circuits in use in the tandem-to-end office link, and using actual voice-grade circuit loadings, geographically averaged on a study-area-wide basis, that the incumbent LEC experiences based on the prior year's annual use. As discussed above, incumbent LECs that deaverage their transport rates under our existing zone-based deaveraging rules may similarly deaverage the actual minutes of use figures that they use to calculate per-minute common transport rates. As they develop transport rates based on actual minutes of use, we require incumbent LECs to use any increase in common transport revenues to decrease the TIC. These rates must be included in the LEC access tariff filings effective January 1, 1998.

209. We disagree with commenters arguing that the actual number of minutes a circuit is in use is irrelevant in a rate-setting context.[278] These commenters argue that rates should be set based on forward-looking cost studies using Commission-determined "efficient" traffic levels, which they argue may be far higher than either the actual traffic levels, or the 9000 minutes of use assumption. As explained elsewhere, we are not taking the general approach of prescribing rates at forward looking economic costs, and we decline to make an exception in this instance. We are instead reforming access charges so that they more closely reflect the costs imposed by individual access customers. We also do not find it necessary to employ different principles here to ensure that incumbent LECs face sufficient incentives to design their networks to achieve efficient usage levels. LECs subject to price cap regulation already have only limited ability to raise rates to cover the costs of inefficient network designs, and are able to benefit from increased profits as their efficiency improves. In addition, as competition develops for local service, all incumbent LECs will face increasing pressure to provide service as efficiently as possible.

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[276] *Id.*

[277] U S West Reply at 32.

[278] *See, e.g.*, WorldCom Reply at 35.

D. Transport Interconnection Charge (TIC)

1. Background

210. Under our Part 36 separations rules, certain costs of the incumbent LEC network are assigned to the interstate jurisdiction. The Part 69 cost allocation rules allocate these costs among the various access and interexchange services, including transport. In the *First Transport Order*,[279] we restructured interstate transport rates for incumbent LECs. The restructure created facility-based rates for dedicated transport services based on comparable special access rates as of September 1, 1991, derived per-minute tandem-switched transport transmission rates from those dedicated rates, established a tandem switching rate, and established a TIC that initially recovered the difference between the revenues from the new facility-based rates and the revenues that would have been realized under the preexisting "equal charge rule." Under the equal charge rule, which arose from the AT&T divestiture of the BOCs,[280] the BOCs were required to charge a per-minute, distance-sensitive rate for their transport offerings, regardless of how the underlying costs were incurred. The TIC was intended as a transitional measure that initially made the transport rate restructure revenue neutral for incumbent LECs and reduced any harmful interim effects on small IXCs caused by the restructuring of transport rates.[281] Approximately 70 percent of incumbent LEC transport revenues are generated through TIC charges, or approximately $3.1 billion, according to USTA.[282]

211. The TIC is a per-minute charge assessed on all switched access minutes, including those of competitors that interconnect with the LEC switched access network through expanded interconnection. In the NPRM, we sought comment on how to reduce and eliminate the TIC in a manner that fosters competition and responds to the D.C. Circuit's *CompTel* remand. We sought comment on different methods of recovering the costs currently recovered by the TIC, including: (1) giving the incumbent LECs significant pricing flexibility and allowing market forces to discipline the recovery of the TIC, either alone or in conjunction with a phase-out of the TIC; (2) quantifying and correcting all identifiable cost misallocations and other practices that result in costs being recovered through the TIC; (3) combining the above approaches, for example, by addressing directly the most significant and readily-corrected misallocations, and then relying on a market-based approach to reduce what remains of the TIC; (4) providing for the termination of the TIC over a specified time, such

[279] *First Transport Order*, 7 FCC Rcd 7006.

[280] *United States v. American Tel. and Tel. Co.*, 552 F. Supp. 131.

[281] *First Transport Order*, 7 FCC Rcd at 7038-40.

[282] USTA Comments, Attachment 11.

as three years. We specifically sought comment on the possible reassignment of costs based on several explanations for the amounts in the TIC. The NPRM also sought comment on how the resolution of the issues surrounding the TIC would be affected by decisions on universal service, by the level of any residual costs, and by the adoption of either the market-based or prescriptive approach to access reform.

2. Discussion

212. As a per-minute charge assessed on all switched access minutes, including those of competing providers of transport service that interconnect with the LEC switched access network through expanded interconnection, the TIC adversely affects the development of competition in the interstate access market. First, as discussed more fully below, some of the revenues recovered through the TIC should be recovered through other switched access elements, including transport rates other than the TIC. The TIC, as currently structured, provides the incumbent LECs with a competitive advantage for some of their interstate switched access services because the charges for those services do not recover their full costs. At the same time, the incumbent LECs' competitors using expanded interconnection[283] must pay a share of incumbent LEC transport costs through the TIC. Second, all other things being equal, the usage-rated TIC increases the per-minute access charges paid by IXCs and long-distance consumers, thus artificially suppressing usage of such services and encouraging customers to explore ways to bypass the LEC switched access network, particularly through the use of switched facilities of providers other than the incumbent LEC that may be less economically efficient than incumbent LECs.

213. As we noted in the NPRM, our goal is to establish a mechanism to reduce and eliminate the TIC in a manner that fosters competition and responds to the D.C. Circuit's remand. To that end, we below identify several costs included in the TIC that should be reallocated to other access elements. We conclude, however, that on the present record, we cannot immediately eliminate the TIC entirely through these reassignments. We establish a mechanism that should substantially reduce the remaining TIC over a short, but reasonable period. In addition, we will in the near future refer a broad range of separations issues to a Joint Board for purposes of determining whether certain costs currently allocated to the interstate jurisdiction and recovered through the TIC more properly should be allocated to the intrastate jurisdiction. Finally, we establish the means by which the remaining TIC amounts are to be recovered.

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[283] Under our expanded interconnection rules and policies, competitors may interconnect with the incumbent LEC's facilities at the end office and supply their own transport. For a more detailed discussion of expanded interconnection, *see Expanded Interconnection with Local Telephone Company Facilities*, Memorandum Opinion and Order, 9 FCC Rcd at 5157.

a. Reallocation of costs in the TIC

214. The record in response to the NPRM clearly establishes that some costs in the TIC should be reallocated to other access elements. USTA, in conjunction with the incumbent LECs, submitted extensive comments setting forth an incumbent LEC consensus explanation of the causes for the sums in the TIC and estimates of the amounts associated with each explanation.[284] While the current rulemaking record will not permit us to prescribe specific amounts that individual incumbent LECs must shift from the TIC to specific access rate elements, it does permit us to direct incumbent LECs to make certain cost reallocations and to require them to calculate the appropriate level of the reallocation in the supporting materials filed with the tariffs implementing the changes. Below, we discuss each of the identified causes of costs being included in the TIC and the extent to which costs should be reallocated to other access elements or categories.

215. In this Order, we do not address certain rate structure issues relating to incumbent LECs subject to rate-of-return regulation. These LECs account for relatively few access lines.[285] In some instances we direct price cap LECs to allocate costs to new rate elements that do not currently exist for rate-of-return LECs. We anticipate that we will propose similar rate elements in the forthcoming notice of proposed rulemaking addressing rate structure issues for incumbent LECs subject to rate-of-return regulation. Recognizing the expense and difficulties of modifying billing systems, we conclude that, until the rate structure issues are resolved for rate-of-return companies, the costs allocated to new elements and any residual TIC revenues may continue to be recovered by the incumbent LECs that are not subject to price cap regulation through per-minute TIC rates assessed on both originating and terminating access.

216. As their primary challenge to the incumbent LEC proposals to reallocate costs from the TIC, several parties argue that we should use forward-looking cost principles, or TELRIC, in determining how much to shift from the TIC to other access categories. Some parties advocating the use of such forward-looking cost standards assert that any costs not meeting these forward-looking cost standards should be eliminated from the TIC, and the incumbent LECs should not be permitted to recover those amounts. One group of consumer advocates proposes that we need not complete TELRIC studies before substantially reducing the TIC because BA/NYNEX has already proposed, as part of their access charge reform

[284] USTA Comments, Attachments 10 and 11.

[285] As of December 31, 1995, larger, reporting local exchange carriers (*i.e.*, those with revenues of at least $100 million) account for 92.6 percent of the total presubscribed lines. Federal Communications Commission, CCB, Industry Analysis Division, *Preliminary Statistics of Common Carriers*, Tbl. 2.3, Total Presubscribed Lines for all Local Exchange Companies (July 1996). Thus, small local exchange carriers account for 7.4 percent of the presubscribed lines.

compromise plan, to eliminate up to 80 percent of the TIC pending a determination of "service related" costs by the Commission.[286] We conclude, however, that immediate, widespread, prescriptive action is not necessary to pressure access rates toward market-based levels. Instead, we have determined that the most appropriate first step towards access reform is to make the current rate structure as economically efficient as possible within the limits of past ratemaking practices. These practices include setting rates based on interstate-allocated costs, subject to price cap constraints for most large carriers.[287] As we discuss more fully in Section IV, below, we intend in the future to rely primarily on market forces, with a prescriptive backdrop, to move rates toward forward-looking economic cost. Therefore, because we currently are not prescribing a forward-looking cost method for access reform, we will require reassignment of certain TIC revenues based on an analysis of the separated, booked costs already recovered through the TIC.

217. *SS7 costs.* Based on the record before us, we conclude that SS7 costs that are recovered by the TIC should be removed from the TIC and allocated to the traffic-sensitive basket. The record demonstrates that these costs are related to the signalling function and should be recovered through local switching or signalling rate elements. The costs to be removed are the costs of signal transfer points (STPs) that were included in the tandem-switching category for jurisdictional separations purposes and the cost of the link between the end office and the STP that is used only for SS7 signalling. The incumbent LECs shall distribute the STP costs reallocated from the TIC to local switching or, if the incumbent LEC has established an unbundled signalling rate structure, to appropriate SS7 elements, in tariffs filed to be effective January 1, 1998. The incumbent LEC shall distribute the costs of the link between the local switch and the STP that are included in the TIC to local switching or, if provided, to the call-setup charge. This change means that the incumbent LECs' SS7 prices will reflect the full cost of providing SS7 signalling and provide the proper price signals to developers of new services utilizing SS7. We decline to adopt the suggestion of US West that we reallocate SS7 costs to services in the trunking basket. As we conclude below in conjunction with our consideration of the SS7 rate structure, the costs being reallocated are appropriately included in the traffic-sensitive basket.

218. *Tandem switching costs.* Several parties argue that the tandem switching rate must be set to reflect the cost of providing the service. In the preceding section, we modified the existing tandem-switched transport rate structure and revised certain of the pricing rules applicable to elements of tandem-switched transport to establish a cost-based structure and to respond to the court remand in *CompTel v. FCC*. The revised pricing rules applicable to

[286] *See* Letter from Brian R. Moir, Esq., Counsel to the International Communications Association, to William F. Caton, Acting Secretary, FCC, April 16, 1997; Letter from G.R. Evans, Vice President, Federal Regulatory Affairs, NYNEX, to William Caton, Acting Secretary, FCC, April 4, 1997.

[287] *See* Section I, above.

tandem switching include two separate elements -- a flat-rated port charge to be assessed when a port is dedicated to a single customer and a per minute charge to be assessed for the traffic-sensitive portion of the tandem switch. In three approximately equal annual steps, beginning January 1, 1998, we require reallocation of all tandem-switching revenues currently allocated to the TIC to the tandem-switching rate element. As a result of this modification, the total revenues recovered through the tandem switching rates will, subject to price cap limits, increase to the level of costs assigned to the interstate jurisdiction by the separations process at the end of our plan. Equivalent changes to the amounts recovered through the TIC must be made to ensure that over-recovery does not occur. After this adjustment, in accordance with the *CompTel* remand, and to facilitate the development of economically-efficient competition for tandem-switching services, the TIC will not recover any costs that are attributable to tandem switching.

219. *DS1/voice-grade multiplexer costs.* We conclude that the costs of DS1/voice-grade multiplexing[288] associated with analog local switches should be reassigned to the newly created trunk ports category within the traffic sensitive basket. Analog switches require a voice-grade interface on the trunk-side of the end office switch. Our separations rules assign the costs of DS1/voice-grade multiplexers to the cable and wire category. The costs of these multiplexers associated with switched access were originally included in the Part 69 transport revenue requirement. The revised transport rules adopted in 1992 established transport rates based on DS1 switch interfaces, and thus the rates did not include the costs of DS1/voice-grade multiplexers. The costs of the DS1/voice-grade multiplexers are, therefore, included in the TIC. Therefore, the costs associated with DS1/voice-grade multiplexing associated with analog local switches should be reassigned to the trunk ports category within the traffic sensitive basket, to be considered in conjunction with the development of appropriate rates for trunk ports, in tariffs filed to become effective January 1, 1998. This will make recovery of the costs necessary to use an analog switch port equivalent to the recovery of digital switch port costs, in which the multiplexing function is included in the port itself.

220. *Host/remote trunking costs.* We agree with the parties that allege that the costs of host/remote links not recovered by the current tandem-switched transport rates should be included in the tandem-switched transport category. The record reflects that the rates for carrying traffic between the host and a remote switch, for which the tandem-switched transport rates, both fixed and per mile, are assessed, do not recover the full costs of this transmission service. These charges for host/remote service are in addition to charges that an IXC is assessed for either direct-trunked transport, or tandem-switched transport, between the serving wire center and the host end office. This reassignment will ensure that these transmission costs will be recovered from those using the transmission facilities, and must be included in tariff filings to become effective January 1, 1998. We reject NECA's suggestion

[288] DS1 transport trunks need to be demultiplexed into individual voice-grade circuits before being switched at analog end office switches. DS1/voice-grade multiplexers perform this function.

that we include these costs in local switching on the theory that remote facilities are installed when it is more cost effective to do that than it is to install a new switch at the remote location. That would require all users of local switching to pay for these host/remote transmission facilities. Imposing the host/remote transmission cost on the users of host/remote facilities is more cost causative and will facilitate the development of access competition.

221. *Additional multiplexers associated with tandem switching.* Based on the record before us, we conclude that an IXC's decision to utilize tandem-switched transport imposes the need for additional multiplexing on each side of the tandem switch. The revised tandem-switched transport rate structure provides for these multiplexers. For price cap LECs, recovery of the costs associated with the multiplexers should, therefore, be shifted from the TIC to the tandem-switched transport category as of January 1, 1998, as explained in Section III.C. This realignment of costs helps ensure that tandem-switched transport rates are cost based, as required by the *CompTel* decision, and facilitates competitive entry for those services.

222. *Use of actual minutes of use rather than an assumed 9000 minutes of use.* The data in the record provided by USTA and other incumbent LECs support a finding that for many incumbent LECs, especially those serving less densely populated areas, the assumed 9000 minutes of use per circuit is far higher than actual minutes of use. A tandem-switched transport rate derived by dividing the cost of a circuit by an assumed usage level does not recover the costs of the circuit when the actual usage is below that level. The costs not recovered through tandem-switched transport rates based on our current 9000 minutes of use assumption are being recovered through the TIC. In the preceding section, we conclude that the pricing of tandem-switched transport transmission should be based on the actual average minutes of use on the shared circuits and that such pricing would produce a cost-based rate. Accordingly, costs should be removed from the TIC equal to the additional revenues realized from the new tandem-switched transport rates when it is implemented in accordance with the rate structure established in Section III.C.

223. *Central Office Equipment (COE) Maintenance Expenses.* The record in this proceeding demonstrates that allocating COE maintenance expenses on the basis of combined COE investment produces misallocations of these expenses among access services. USTA correctly traces this problem to the Part 36 separations rules; the problem is then tracked in our Part 69 cost allocation rules. Under our current rules, COE maintenance expenses are allocated among separations categories, and then access services, based on the *combined* investment in the three categories of the COE plant being maintained -- Central Office Switching, Operator Systems, and Central Office-Transmission -- rather than on the *individual* investment in each of those categories. As a result, a portion of the expense of maintaining local switches and operator systems is recovered in rates for common line, transport, and

special access even though those do not utilize any local switching or operator systems.[289] Correcting this misallocation through changes to Part 36 would require referral to a Federal-State Joint Board and therefore could not be done in this proceeding. The misallocation can, however, be corrected by modifying section 69.401 of our rules to provide that the COE expenses assigned to the interstate jurisdiction should be allocated on the basis of the allocation of the specific type of COE investment being maintained, and we make the correction here. This will shift some costs to local switching from common line and transport, and result in more cost-based rates. This shift must be reflected in tariff filings to be effective January 1, 1998. We also plan to refer the underlying separations issue to a Joint Board for its recommendation.

224. *Separations-related causes.* Several incumbent LECs argue that a substantial portion of the TIC can be traced to decisions separating costs between the interstate and intrastate jurisdictions. As explained by USTA and incumbent LECs, the largest portion of the amounts recovered by the TIC results from the differences in the jurisdictional separations allocation procedures for message (*i.e.*, switched) services and special access services, and from the consequent effects of the Commission's decision to use special access rates to establish transport transmission rates when the Commission restructured transport rates. The current jurisdictional separations process separates the costs of message services based on average cost factors; costs of DS1 and DS3 special access services, in contrast, are separated using unit costing methods. Because of the differences in these separations methodologies, special access-derived rates reflect the costs of transport in areas in which special access services are most often offered (urban, higher density areas), and do not reflect the costs of transport in rural, less dense areas. Another alleged separations-related cause of the amounts in the TIC is the use of circuit termination counts in the separations process to allocate costs between special access and switched services before they are allocated between federal and state jurisdictions. This practice appears to allocate costs disproportionately to switched services. The incumbent LECs assert that the use of direct costing methods would assign many of these costs to local and intrastate services and to interstate services other than transport.[290]

225. We find that some of the remaining costs recovered by the TIC result from at least two different causes: (1) the separations process assigned costs differently to private line and message (*i.e.*, switched) services, resulting in costs allocated to special access being lower than those allocated to the message category, even though the two services use comparable facilities -- rates for direct-trunked transport and the transmission component of tandem-switched transport, which are switched services, therefore, do not recover the full amount of

[289] BellSouth Comments at 78.

[290] If the Joint Board on Jurisdictional Separations takes action to address this issue, we will then consider what corresponding reallocations should be made.